WHAT IS CLAIMED IS:

1. A method for producing a mammalian peptide which comprises:

growing plant cells containing an integrated sequence comprising,

a first expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plant cells, (2) a structural gene coding for said mammalian peptide, and (3) a termination region,

whereby said structural gene is expressed to produce said mammalian peptide; and

isolating said mammalian peptide substantially free of plant cell components.

2. A method according to Claim 1, wherein said integrated sequence ~~includes~~ --comprises-- a second expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plants, (2) a structural gene coding for a peptide which allows for selection of plant cells expressing said peptide, and (3) a termination region.

3. A method according to Claim 2, wherein said transcriptional and translational initiation region --of said first expression cassette-- is derived at least in part from a transcriptional and translational initiation region of a Ti- or Ri-plasmid.

4. A method according to Claim 3, wherein said transcriptional and translational initiation region --of said first expression cassette-- regulates expression of mannopine synthase, octopine synthase or nopaline synthase.

5. A method according to Claim 1, wherein said transcriptional and translational initiation

region of said first expression cassette regulates expression of a plant gene.

6. A method according to Claim 1, wherein said integrated sequence [includes] --comprises-- a boundary region from T-DNA.

7. A method for producing an interferon which comprises:

growing plant cells containing an integrated sequence comprising,

a first expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plant cells and derived from a region which regulates expression of a T-DNA gene, (2) a structural gene coding for an interferon, and (3) a termination region functional in said plant cells,

whereby said structural gene is expressed to produce said interferon, and

isolating said interferon substantially free of plant cell components.

8. A method according to Claim 7, wherein said plant cells are dicotyledon plant cells said integrated sequence [includes] --comprises-- a second expression cassette having in the direction of transcription (1) a transcriptional and translational initiation region functional in said plant cells, (2) a structural gene coding for an enzyme which imparts antibiotic resistance, and (3) a T-DNA boundary.

9. A method according to Claim 8, wherein said first expression cassette transcriptional and translational initiation region regulates expression of the mannopine synthase gene of T-DNA.

10. An expression cassette comprising a DNA sequence having in the direction of transcription a transcriptional and translational initiation region functional in plant cells, a structural gene coding for a mammalian peptide, and a termination region functional in plant cells.

11. An expression cassette according to Claim 10 including joined to said DNA sequence a second expression cassette comprising a second transcriptional and translational initiation region functional in plant cells, a structural gene coding for a peptide providing a phenotypic property capable of selection in plant cells, and a termination region functional in plant cells.

12. An expression cassette according to Claim 11, [including] --comprising-- a T-DNA boundary.

13. A DNA construct comprising a first expression cassette having in the direction of transcription a transcriptional and translational initiation region regulating the expression of mannopine synthase of T-DNA, a structural gene coding for γ-interferon and a termination region functional in plant cells, a second expression cassette comprising in the direction of transcription a transcriptional and translational initiation region regulatory the expression of octopine synthase of T-DNA, a structural gene coding for an enzyme imparting antibiotic resistance to plant cells, and a termination region functional in plant cells, and a T-DNA boundary.

ADP A2 add B1

add C4